

WHAT IS CLAIMED IS:

1. A method for generating a set of technology files pertaining to fabricating semiconductor devices using a first technology, comprising:
 - creating a first set of virtual technology files pertaining to a first technology;
 - identifying a second set of virtual technology files pertaining to a second technology, the second set of virtual technology files being linked to a predetermined set of actual files in a document repository;
 - copying one or more links of the second set of virtual technology files to generate corresponding links for a first subset of virtual technology files of the first set if the first and second technologies allow the corresponding actual files to be shared; and
 - approving the first set of the virtual technology files to make it effective for implementing the first technology.
2. The method of claim 1 further comprising establishing one or more links between a second subset of the first set of virtual technology files with one or more actual files not linked to the second set of virtual technology files in the document repository.
3. The method of claim 2 further comprising:
 - creating one or more actual files for the first technology in the document repository if needed; and
 - linking the created actual files to a third subset of virtual technology files

of the first set.

4. The method of claim 2 wherein the establishing further includes querying each technology file to determine whether the technology file is linkable.

5. The method of claim 1 further comprising modifying one or more actual files in the document repository to update all virtual technology files for different technologies linked thereto.

6. The method of claim 5 wherein the modifying further includes:
notifying one or more virtual document owners who use one or more virtual technology files linked to each modified actual file about proposed modifications;

confirming the modifications based on approvals obtained from the administrators and those virtual document owners; and

modifying the actual files to update all the virtual technology files linked thereto.

7. The method of claim 1 further comprising establishing the document repository of technology files for practicing fabrication processes by multiple virtual document owners.

8. A component based semiconductor fabrication process information management system comprising:

a data input process unit for importing one or more physical technology files containing the semiconductor fabrication process information into the system;

a data editing process unit for editing the physical technology file or changing one or more links associated thereto by one or more authorized virtual document owners; and

a data linking process unit for linking one or more physical technology files with one or more virtual technology files to generate a set of technology files for a predetermined fabrication process.

9. The system of claim 8 wherein the set of technology files for the predetermined fabrication process includes information regarding tool configuration, tool recipe, tool monitor based on tool name and module release specification.

10. The system of claim 8 wherein the data input process unit further includes means for at least one physical file owner to enter information regarding wafer size, module, and tool name.

11. The system of claim 8 wherein the data editing process unit further includes means for allowing at least one authorized user to edit a file at any time.

12. The system of claim 8 further comprising a modification approval process unit for obtaining predetermined approvals after any file has been edited.

13. A method for creating a set of technology files for fabricating semiconductor devices, comprising:

identifying a first technology generation to be implemented for fabricating semiconductor devices;

creating a first set of virtual technology files embodying the first technology generation, the virtual technology files requiring information regarding tool configuration, tool recipe, tool monitor, and module release specification;

identifying a first subset of the first set of virtual technology files that are identical to a second set of virtual technology files embodying a second technology, the second set of virtual technology files being linked to a predetermined set of actual files in a document repository; and

copying one or more links of the second set of virtual technology files for linking the first subset of virtual technology files to corresponding actual files.

14. The method of claim 13 further comprising establishing one or more links to one or more actual technology files in the document repository for a second subset of the first set of virtual technology files if the actual technology files are available in the document repository and do not related to the second set of virtual technology files.

15. The method of claim 14 further comprising:

creating one or more actual files needed for the first technology generation in the document repository if such actual files do not exist; and

linking the created actual files to a second subset of virtual technology

files of the first set.

16. The method of claim 15 further comprising approving the first set of the virtual technology files to make it effective for implementing the first technology generation.

17. The method of claim 13 further comprising modifying one or more actual files in the document repository.

18. The method of claim 17 further includes:
 sending proposed modifications to one or more virtual document owners who use one or more virtual technology files linked to the actual files to be modified;
 confirming the modifications based on approvals obtained from the virtual document owners; and
 modifying the actual files to update all the virtual technology files linked thereto.